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| MYERS BIGEL SIBLEY & SAJOVEC | | | EXAMINER | |
| PO BOX 37428 | | | AJAYI, JOEL | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/806,903

Applicant(s)

CHO ET AL.

Examiner

Joel Ajayi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33, 35 and 36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33, 35, and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to Applicant's amendment filed on May 07, 2007. **Claims 1-33, 35, 36** are still pending in the present application. **This action is made FINAL.**

Response to Arguments

Applicant's arguments filed May 07, 2007 have been fully considered but they are not persuasive.

The argument features that the switching controller and the signal processing unit are part of the base station, not mobile terminal.

The examiner respectfully disagrees with the applicant's statement and asserts that Takao et al. shows in fig. 6 the components of a mobile station, which include a switching controller and a signal processing unit.

The argument features that the wireless terminal comprises of a first and second interfaces.

The examiner respectfully disagrees with the applicant's statement and asserts that Takao et al. discusses base stations that are connected to mobile stations via radio channels (paragraph 5, lines 1-13), in order for the base station to communicate with the mobile station there has to be interfaces; fig. 10 shows a mobile station with two transmitters and receivers, which are used to interact with the base station.

The argument features that data associated with a multi-media application is transmitted over the first channel, data associated with a first application running on the wireless terminal is transmitted to the wireless terminal over the first communications channel, and wherein at least some of the control signals associated with the first application are transmitted from the wireless

terminal to the access point over the second communications channel; using a second communications channel for transmitting data associated with a second application.

The examiner respectfully disagrees with the applicant's statement and asserts that Takao et al. discusses applications on a cellular phone that are used to allow a user to access homepages in servers on the Internet or to use electronic mail; in response digital contents are downloaded from the servers. Depending on the applications accessed, the amount of data transmitted through the radio channels will vary for both uplink and downlink; different frequencies and channels are used (paragraph 5, lines 1-13; paragraph 22, lines 1-11; paragraph 29, line 1 – paragraph 30, line 12).

The argument features that the first application is run on the wireless terminal and the second application is remote from the wireless terminal.

The examiner respectfully disagrees with the applicant's statement and asserts that Takao discusses a cellular phone with an application that is used to access homepages uploaded in servers (another application), which is remote from the wireless terminal (paragraph 22, lines 1-11).

In view of the above, the rejections using Takao are maintained as repeated below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-3, 6, 10-13, 17, 18, 22, 24, 25, 30, 31, 34, 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Takayama et al. (U.S. Patent Application Number: 2002/0025810)**.

Consider claim 1; Takao clearly discloses a wireless terminal comprising: a data processor (paragraph 61, lines 1-14); at least one control unit (mode switcher) that is responsive to the data processor and that controls communications with an access point (base station) over a first communications channel and over a second full-duplex communications channel (uplink and downlink) (paragraph 5, lines 1-13; paragraph 29, lines 1-17); a first interface (communication mode) between the at least one control unit and the first communications

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channel (paragraph 5, lines 1-13; paragraph 29, lines 1-17); and a second interface (communication mode) between the at least one control unit and the second communications channel (paragraph 5, lines 1-13; paragraph 29, lines 1-17).

Except:

Communication over a wireless local area network.

In the same field of endeavor Takayama clearly discloses communication over a wireless local area network (paragraph 6, lines 6-9; paragraph 41, lines 1-6).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Frost into the method of Shaughnessy in order to provide a high speed roaming method of a WLAN that is capable of executing the roaming in a very short time period.

Consider **claim 2**; the combination above clearly discloses that the at least one control unit comprises a MAC control unit (Takayama, paragraph 41, lines 1-6).

Consider **claim 3**; the combination above clearly discloses a traffic control unit (mode switcher) that is responsive to the data processor (Takao, paragraph 29, lines 1-17).

Consider **claims 6, 22, 30**; the combination above clearly discloses that the first channel comprises a half-duplex channel (downlink) that only carries data from the access point to the wireless terminal (Takao, paragraph 5, lines 1-13; paragraph 29, lines 1-17).

Consider **claims 10, 13, 25, 31, 36**; the combination above clearly discloses that the wireless local area network operates at least in part under the IEEE 802.11 standard (Takayama, paragraph 10, lines 1-11; paragraph 53, lines 7-14).

Consider **claims 11, 12, 17, 24**; the combination above clearly discloses that the first communications channel and the second communications channel are implemented in different frequency bands (Takao, paragraph 5, lines 1-13; paragraph 27, line 1- paragraph 29, line 17).

Consider **claim 18**; the combination above clearly discloses that the wireless terminal comprises: a data processor (Takao, paragraph 61, lines 1-14); at least one MAC control unit (Takayama, paragraph 41, lines 1-6) that is responsive to the data processor and that controls communications with the access point over the first communications channel and over the second communications channel (Takao, paragraph 5, lines 1-13; paragraph 29, lines 1-17); a first interface between the at least one MAC control unit and the first communications channel (Takao, paragraph 5, lines 1-13; paragraph 29, lines 1-17); and a second interface between the at least one MAC control unit and the second communications channel (Takao, paragraph 5, lines 1-13; paragraph 29, lines 1-17).

Claims 5, 7, 9, 14-16, 26-28, 32, 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Tzamaloukas et al. (U.S. Patent Application Number: 2004/0073361)**.

Consider **claim 14**; Takao clearly discloses a wireless communications system, comprising: a wireless terminal (mobile station) that transmits and receives data (paragraph 5, lines 1-13; paragraph 29, lines 1-17); an access point (base station) that serves as an interface between the wireless terminal and at least one processing server that is located on at least one external network (paragraph 5, lines 1-13; paragraph 22, lines 1-11; paragraph 29, lines 1-17); a first communications channel between the wireless terminal and the access point for transmitting

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data associated with the first application from the access point to the wireless terminal (paragraph 5, lines 1-13; paragraph 29, lines 1-17); and a second communications channel between the wireless terminal and the access point for transmitting data associated with the second application between the wireless terminal and the access point (paragraph 5, lines 1-13; paragraph 29, lines 1-17).

Except:

First and second applications that are running simultaneously on the wireless terminal.

In the same field of endeavor Tzamaloukas clearly discloses first and second applications that are running on the wireless terminal (paragraph 35, lines 1-10; paragraph 37, lines 1-11).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Tzamaloukas into the method of Takao in order to provide an enhanced mobile communication device capable of operating in fast moving and high density networks.

Consider **claim 26**; Takao clearly discloses the method comprising: receiving at the wireless terminal (mobile station) over a first communications channel between the wireless terminal and an access point (base station) (paragraph 5, lines 1-13; paragraph 29, lines 1-17); establishing a transmission path between the wireless terminal and the access point over a second communications channel (paragraph 5, lines 1-13; paragraph 29, lines 1-17); and transmitting data over the second communications channel via the transmission path (paragraph 5, lines 1-13; paragraph 29, lines 1-17).

Except:

Transmitting and receiving data from a plurality of applications.

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In the same field of endeavor Tzamaloukas clearly discloses transmitting and receiving data from a plurality of applications (paragraph 35, lines 1-10; paragraph 37, lines 1-11).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Tzamaloukas into the method of Takao in order to provide an enhanced mobile communication device capable of operating in fast moving and high density networks.

Consider **claim 33**; Takao clearly discloses a wireless terminal (mobile station) for transmitting and receiving data (paragraph 5, lines 1-13; paragraph 29, lines 1-17); an access point (base station) interfaced with an external processing server (paragraph 5, lines 1-13; paragraph 22, lines 1-11; paragraph 29, lines 1-17); and a plurality of wireless channels for transmitting and receiving the data (paragraph 5, lines 1-13; paragraph 29, lines 1-17); wherein the plurality of wireless channels (radio channels) operates in different frequency bands and have different throughputs (amount) (paragraph 5, lines 1-13; paragraph 22, lines 1-11; paragraph 29, line 1 – paragraph 30, line 12); and wherein the second application (homepages uploaded in servers) is remote from the wireless terminal (paragraph 22, lines 1-11; paragraph 29, line 1 – paragraph 30, line 12).

Except:

Transmitting and receiving data from a plurality of applications.

In the same field of endeavor Tzamaloukas clearly discloses transmitting and receiving data from a plurality of applications (paragraph 35, lines 1-10; paragraph 37, lines 1-11).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Tzamaloukas into the method of Takao in

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order to provide an enhanced mobile communication device capable of operating in fast moving and high density networks.

Consider **claims 5, 7, 9, 15, 16, 27, 28, 32**; the combination above clearly discloses that the at least one MAC control unit also includes a traffic control unit (mode switcher) (Takao, paragraph 5, lines 1-13; paragraph 29, lines 1-17) that forms a data transmission route for each of a plurality of applications running on the wireless terminal (Tzamaloukas, paragraph 35, lines 1-10; paragraph 37, lines 1-11).

Claims 4 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Takayama et al. (U.S. Patent Application Number: 2002/0025810)**, and further in view of **Ota et al. (U.S. Patent Number: 6,115,615)**.

Consider **claims 4 and 21**; Takao and Takayama clearly disclose the claimed invention except that the wireless terminal consists of two MAC control units.

In the same field of endeavor Ota clearly discloses that the wireless terminal consists of two MAC control units (column 9, lines 6-30).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Ota into the method of Takao and Takayama in order to effectively and efficiently switch transmission routes of a packet.

Claims 8, 23, 29, and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Takayama et al. (U.S.**

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Patent Application Number: 2002/0025810), and further in view of Medlock et al. (U.S.

Patent Application Number: 2002/0062472).

Consider **claims 8, 23, 29, and 35**; Takao and Takayama clearly disclose the claimed invention except that the communication channels are implemented as orthogonal frequency division multiplexing channel and direct sequence spread spectrum communications channel.

In the same field of endeavor Medlock clearly discloses that the communication channels are implemented as orthogonal frequency division multiplexing channel and direct sequence spread spectrum communications channel (paragraph 30, lines 1-17).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Medlock into the method of Takao and Takayama in order to provide an apparatus and a method for preparing data for transmitting from a communication device.

Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Takao et al. (U.S. Patent Application Number: 2002/0173277)** in view of **Takayama et al. (U.S. Patent Application Number: 2002/0025810)**, and further in view of **Du (U.S. Patent Number: 6,480,480)**.

Consider **claims 19 and 20**; Takao and Takayama clearly disclose the claimed invention except the access point comprises of a second data processor.

In the same field of endeavor Du clearly discloses that the access point comprises of a second data processor (column 3, lines 40-53).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Du into the method of Takao and Takayama in order to provide a local area network for wireless transmission of control and user information between a plurality of terminals and a terminal working as a controller.

Conclusion

Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Joel Ajayi whose telephone number is (571) 270-1091. The Examiner can normally be reached on Monday-Thursday from 7:30am to 5:00pm and Friday 7:30am to 4:00 pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Charles Appiah can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.

Joel Ajayi

July 23, 2007



CHARLES N. APPIAH
SUPERVISORY PATENT EXAMINER